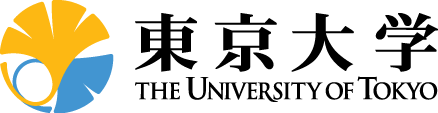
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**Letter of recommendation for Shion Chen**

To whom it may concern:

I am very glad to recommend Shion Chen to apply for the ATLAS thesis award, on the completion of the Ph .D program in University of Tokyo.

The Ph. D in University of Tokyo is typically 3-year, designed to fully dedicated to his/her research activity, without mandatory lectures and teaching duties which are motivated during the master program preceding it. My laboratory has been involved in two large-scale projects: the ATLAS and the future linear collider ILC, as well as hosting tabletop-sized experiments using neutrons: test of quantum nature of gravity through measurement of ultra-cold neutrons, and search for Yukawa-like new forces using neutron–Xe scattering and so on.

I had been supervising Shion since 2011. In his early years in the master period, he worked on 1) EM calorimeter development for the ILD detector in context of ILC, and 2) theoretical study for quantum entanglement measurement in collider experiments, in both of which he presented remarkable results as well as visibility in the field.

He moved to the ATLAS experiment after completing his master study in 2014. He first participated in the activity of MicroMegas detector as part of the New Small Wheel upgrade project as his qualification task. He developed a database system that centrally integrates the parameters regarding to the detector design, which is appreciated by the NSW software developers suffered from the quickly evolving geometry.

He had been also involved the operation taskforce of the Muon Spectrometer in 2015-2016. Shion was an efficient shifter in ACR, serving out of the straggle of the detector against the newly experiencing Run2 condition with his deep understanding towards the detector as well as his communication ability.

Above all, his biggest contribution to ATLAS is physics analysis on SUSY search. He had been working on two analyses: search for pair production of 1) EW gauginos using 3-lepton final state, and 2) gluinos in 1-lepton final state. In the EW gaugino search, he not only contributed to the first publication in Run2 as the main analyzer, he has also developed new discrimination method including matrix-element likelihood and pseudo-MT2 variables for the future analyses. The gluino search became his thesis analysis where he introduced a new dedicated data-driven background estimation technique, as well as an amazingly comprehensive set of interpretation. It is highly impressive that he was always discovery-oriented and keeps progressive, despite the pressure of early publication.

Besides, Shion is a very active, highly motivated and collaborative fellow, and his colleagues enjoy working with him. He is happy to do serve work as well as to provide help and guidance to his colleagues. He has no hesitation in casting questions during the meetings, which often provokes vital discussion and helped the projects of other students. His sincere attitude towards science is also worth noting. He is not satisfied only with the outcome in his research, but always try to understand the reason behind it. His overall personality is fairly promising as an outstanding scientist.

Hereby, I’m convinced that his work is fully qualified for the award, and I strongly recommend him as the candidacy.

Sincerely yours,

Sachio Komamiya

Professor, Physics Department, Graduate School of Science,

The University of Tokyo